

# EXHIBIT 5

**PATENT**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Application No.: 10/613,103

Filing Date: July 7, 2003

Applicant: H. A. Liu

Group Art Unit: 2616

Examiner: Wanda Z. Russell

Title: METHODS AND DEVICES FOR CREATING AN  
ALTERNATIVE PATH FOR A BI-DIRECTIONAL LSP

Attorney Docket: 129250-001018/US

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March 25, 2008

**Mail Stop—AF**

**Request For Reconsideration**

Sir:

In response to the Final Office Action mailed January 25, 2008 the Applicant submits the following remarks.

**A Listing of Claims** begins on page 3 of this paper.

**A Remarks** section begins on page 10 of this paper.

**IN THE SPECIFICATION**

Please replace the following paragraph of the specification. Applicant includes herewith an Attachment for Specification Amendments showing a marked up version of the replacement paragraph.

Page 1:

**[0003]** Existing MPLS Fast Re-routing techniques are effective in re-routing MPLS labeled traffic in an LSP acting independently relative to other LSPs. However, when LSPs are bundled together to operate in two directions, such as in bi-directional LSPs disclosed in U.S. Patent Application No. 10/613,104, MPLS Fast Re-routing does not perform well.

**IN THE CLAIMS**

The following is a complete listing of pending claims with status identifiers in parenthesis.

**LISTING OF CLAIMS**

1. (Original) A system for re-routing traffic from a bi-directional Label Switched Path (LSP) comprising:

an originating network device operable to:

re-route traffic traveling along a bi-directional LSP in a forward direction to an alternate path in the forward direction; and

transmit a switch over message along the alternate path in the forward direction to a merging network device responsible for re-routing traffic traveling along the bi-directional LSP in a backward direction to the alternate path in the backward direction.

2. (Original) The system of claim 1, wherein the originating network device is further operable to transmit a second message, along the alternate path in the forward direction, to the merging network device to allow traffic to travel along the bi-directional LSP in the backward direction when a failure is no longer detected.

3. (Original) The system of claim 1, wherein the originating network device is a multi-protocol label switched (MPLS) device.

4. (Original) The system of claim 1 wherein the bi-directional LSP is comprised of an LSP carrying traffic in the forward direction and another LSP carrying traffic in the backward direction.

5. (Original) The system of claim 1 further comprising a merging network device operable to receive the switch over message and to re-route traffic traveling along the bi-directional LSP in the backwards direction to the alternate path in the backwards direction based on the switch over message.

6. (Original) The system of claim 5, wherein, the merging network device is further operable to: receive a second message along the alternate path in the forward direction; and allow traffic to travel along the bi-directional LSP in the backward direction when a failure is no longer detected based on said second message.

7. (Original) The system of claim 5 wherein the merging network device is a MPLS device.

8. (Original) A merging network device operable to: receive a switch over message; and re-route traffic traveling along a bi-directional LSP in a backwards direction to an alternate path in the backwards direction based on the switch over message.

9. (Original) The device as in claim 8 further operable to: receive a second message along the alternate path in the forward direction; and allow traffic to travel along the bi-directional LSP in the backward direction when a failure is no longer detected based on said second message.

10. (Original) The device of claim 8 wherein, the merging network device is a MPLS device.

11. (Original) A method for re-routing traffic from a bi-directional LSP comprising the steps of: re-routing traffic traveling along a bi-directional LSP in a forward direction to an alternate path in the forward direction; and transmitting a switch over message along the alternate path in the forward direction to a merging network device responsible for re-routing traffic traveling along the bi-directional LSP in a backward direction to the alternate path in the backward direction.

12. (Original) The method of claim 11 further comprising the step of: transmitting a second message, along the alternate path in the forward direction, to the merging network device to allow traffic to travel along the bi-directional LSP in the backward direction when a failure is no longer detected.

13. (Original) The method of claim 11 wherein the bi-directional LSP is comprised of an LSP carrying traffic in the forward direction and another LSP carrying traffic in the backward direction

14. (Original) The method of claim 11 further comprising the steps of: receiving the switch over message; and re-routing traffic traveling along the bi-directional LSP in the backwards direction to the alternate path in the backwards direction based on the switch over message.

15. (Original) The method of claim 14 further comprising the steps of: receiving a second message along the alternate path in the forward direction; and allowing traffic to travel along the bi-directional LSP in the backward direction when a failure is no longer detected based on said second message.

16. (Original) A method for re-routing traffic comprising the steps of: receiving a switch over message; and re-routing traffic traveling along a bi-directional LSP in a backwards direction to an alternate path in the backwards direction based on the switch over message.

17. (Original) The method of claim 16 further comprising the steps of: receiving a second message along the alternate path in the forward direction; and allowing traffic to travel along the bi-directional LSP in the backward direction when a failure is no longer detected based on said second message.

18. (Original) A system for re-routing traffic comprising: an originating network device comprising: means for re-routing traffic traveling along a bi-directional LSP in a forward direction to an alternate path in the forward direction; and means for transmitting a switch over message along the alternate path in the forward direction to a merging network device responsible for re-routing traffic traveling along the bi-directional LSP in a backward direction to the alternate path in the backward direction.

19. (Original) The system of claim 18, wherein the originating network device further comprises means for transmitting a second message, along the alternate path in the forward direction, to the merging network device to allow traffic to travel along the bi-directional LSP in the backward direction when a failure is no longer detected.

20. (Original) The system of claim 18 wherein the bi-directional LSP is comprised of an LSP carrying traffic in the forward direction and another LSP carrying traffic in the backward direction.

21. (Original) The system of claim 1 further comprising a merging network device which comprises means for receiving the switch over message and means for re-routing traffic traveling along the bi-directional LSP in the



backwards direction to the alternate path in the backwards direction based on the switch over message.

22. (Original) The system of claim 21, wherein, the merging network device further comprises: means for receiving a second message along the alternate path in the forward direction; and means for allowing traffic to travel along the bi-directional LSP in the backward direction when a failure is no longer detected based on said second message.

23. (Original) A merging network device comprising: means for receiving a switch over message; and means for re-routing traffic traveling along a bi-directional LSP in a backwards direction to an alternate path in the backwards direction based on the switch over message.

24. (Original) The device as in claim 23 further comprising: means for receiving a second message along the alternate path in the forward direction; and means for allowing traffic to travel along the bi-directional LSP in the backward direction when a failure is no longer detected based on said second message.

25. (Original) A system for re-routing traffic comprising: means for re-routing traffic traveling along a bi-directional LSP in a forward direction to an alternate path in the forward direction; means for transmitting a switch over message, along the alternate path in the forward direction, for re-routing traffic traveling

along the bi-directional LSP in a backward direction; means for receiving the switch over message; and means for re-routing traffic traveling along the bi-directional LSP in a backwards direction to the same alternate path in the backwards direction based on the switch over message.

**REMARKS**

**A. The Section 103 Rejections**

Claims 1-25 were once again rejected under 35 U.S.C. §103(a) based on U. S. Patent Publication No. 2003/0063613 to Carpini et al (“Carpini”) in combination with U.S. Patent No. 6,895,008 to Enoki et al (“Enoki”). Applicant disagrees and traverses these rejections for at least the following reasons.

Each of the claims of the present invention includes the feature of, among other things, the use of a switch-over message to re-route traffic traveling along a bi-directional LSP. Neither Carpini nor Enoki discloses or suggests the use of such a switch-over message.

As the Applicant presently understands the Examiner’s position, the Examiner relies upon Carpini for the disclosure of the claimed switch-over message.

Contrary to the Examiner’s position, however, Carpini does not disclose the claimed switch-over message. In the Final Office Action the Examiner appears to abandon earlier reliance on paragraph 47, lines 15-19 of Carpini. Instead, the Examiner now appears to rely on paragraphs 14 and 51 of Carpini. In more detail the Examiner takes the position that Carpini’s use of the term “re-routing” in paragraph 14 and “divert” in paragraph 51 can be interpreted as disclosing the claimed “switch-over message”. Applicant respectfully disagrees.

Notwithstanding the fact that Carpini uses these two terms, the question remains: how does Carpini re-route or divert data? The mere fact that Carpini

uses these two terms does not indicate that Carpini's re-routing or diversion makes use of the claimed switch-over messages; in fact it does not.

As the Applicant has explained in a previous response, Carpini discloses the detection of a "fault indication" message. It is completely silent with respect to the use of a switch-over message to re-route data along a bi-directional LSP in a backward direction to an alternate path. Paragraph 51 cited by the Examiner illustrates Carpini's silence.

In preceding paragraph 50 Carpini explains that a second switching router 7 "is responsible for redirecting data traffic....onto the secondary path in response to a fault on the...primary path between itself [the router 7] and [an] additional switching router 29. The additional switching router 29 is adapted to recognize...diverted data and to route the data from the secondary path back onto the primary path." Thereafter, in paragraph 51 Carpini uses the term "divert" to describe the diversion of data in paragraph 50. However, nowhere in paragraph 50 is a switch-over message discussed or implied. In fact, it appears from paragraph 50 that router 29 is capable of detecting diverted data and routing it back to a primary path without using a switch-over message.

In sum, though claims may be interpreted broadly, any interpretation must be reasonable in light of the specification, *In re Hyatt*, 54 USPQ2d 1664, 1667 (Fed.Cir. 2000) and the Examiner's interpretation of the terms "divert" or "re-routing" as used in Carpini as having the same or similar meaning as the claimed switch-over message is unreasonable.

Because the combination of Carpini and Enoki does not disclose or suggest the claimed switch-over message, the Applicant respectfully requests withdrawal of the pending rejections and allowance of claims 1-25.

**B. Entry of Request for Reconsideration**

Entry of this Request for Reconsideration ("Request") is solicited because the Request: (a) places the application in condition for allowance for the reasons discussed herein; (b) does not raise any new issues requiring further search and/or consideration; (c) does not present any additional claims without canceling the corresponding number of finally rejected claims; and (d) places the application in better form for appeal, if an appeal is necessary.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact John E. Curtin at the telephone number listed below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 50-3777 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

CAPITOL PATENT & TRADEMARK LAW FIRM, PLLC.

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**ATTACHMENT FOR SPECIFICATION AMENDMENT**  
**REPLACEMENT PARAGRAPH**  
**MARKED-UP VERSION**

**[0003]** Existing MPLS Fast Re-routing techniques are effective in re-routing MPLS labeled traffic in an LSP acting independently relative to other LSPs. However, when LSPs are bundled together to operate in two directions, such as in bi-directional LSPs disclosed in U.S. Patent Application No. 10/613,104 [[----- filed concurrently with the present application]], MPLS Fast Re-routing does not perform well.